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EXAMINER	
SITTA, GRANT	

ART UNIT	PAPER NUMBER
2629	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/564,539	ZHOU ET AL.	
	Examiner	Art Unit	
	GRANT D. SITTA	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/28/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 11 and 13 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 16 of copending Application No. 10/571,830. Although the conflicting claims are not identical, they are not patentably distinct from each other because Applicant's use "and/or" function, when an "or" operator is used only one of the conditions need to be satisfied to read on the claims. Also, the present application fails to expressly state wherein a non-zero separation period of time is used. However, it would have been obvious to use a non-zero separation period of time since a zero separation time would by definition not be a separation of time.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

10/571830	10/564539
1. A drive circuit for a bi-stable display (100) having pixels (Pij) and comprising: a driver (101, 102) for supplying drive waveforms (DWk) to the pixels (Pij) to obtain during an image update period (IUk) an update of an image presented by the pixels (Pij), and a controller (103) for controlling the driver (101, 102) to supply during the image update period (IUk) to a particular one of the pixels (Pij) an associated one of the drive waveforms (DWk) to obtain a required optical transition, the associated one of the drive waveforms (DWk) comprising a drive pulse (DPi) being sub-divided in a sequence of a particular number of drive sub-pulses (SPk), wherein consecutive ones of the drive sub-pulses (SPk) of the sequence are separated by a non-zero separation period of time (SPT).	1. A drive circuit for a bi-stable display (100) having pixels (Pij), the drive circuit comprises: a driver (101, 102) for supplying drive waveforms (DWk) to the pixels (Pij) to obtain during an image update period (IUk) an update of an image presented by the pixels (Pij), and a controller (103) for controlling the driver (101, 102) to supply, during the image update period (IUk) wherein a particular optical transition of a particular one of the pixels (Pij) is required, an associated one of the drive waveforms (DWk) to the particular one of the pixels (Pij), the associated one of the drive waveforms (DWk) comprising a sequence of a particular number of pulses (SPk), wherein consecutive ones of the pulses (SPk) of the sequence are separated by a separation period of time (SPT), the particular number of said pulses (SPk), and/or a duration of said pulses (SPk), and/or a duration of the separation period (SPT) of the associated one of the drive waveforms (DWk) being determined to obtain the particular optical transition at a desired energy of the associated one of the drive waveforms (DWk).
16. A method of driving a bi-stable display (100) having pixels (Pij), the method comprises: supplying (101, 102) drive waveforms (DWk) to the pixels (Pij) to obtain during an image update period (IUk) an update of an image presented by the pixels (Pij), and controlling (103) the supplying (101, 102) to supply during the image update period (IUk) to a particular one of the pixels (Pij) an associated one of	11. A drive circuit as claimed in claim 1, wherein the controller (103) is arranged for controlling the driver (101, 102) to supply a level during the separation period of time (SPT) to substantially keep an optical state of the particular one of the pixels (Pij) unaltered.

the drive waveforms (DWk) to obtain a required optical transition, the associated one of the drive waveforms (DWk) comprising a drive pulse (DPi) being sub-divided in a sequence of a particular number of drive sub-pulses (SPk), wherein consecutive ones of the drive sub-pulses (SPk) of the sequence are separated by a non-zero separation period of time (SPT), and wherein the associated one of the drive waveforms (DWk) comprises, during the separation period, a voltage level which substantially keeps an optical state of the particular one of the pixels (Pij) unaltered.	
1. A drive circuit for a bi-stable display (100) having pixels (Pij) and comprising: a driver (101, 102) for supplying drive waveforms (DWk) to the pixels (Pij) to obtain during an image update period (IUk) an update of an image presented by the pixels (Pij), and a controller (103) for controlling the driver (101, 102) to supply during the image update period (IUk) to a particular one of the pixels (Pij) an associated one of the drive waveforms (DWk) to obtain a required optical transition, the associated one of the drive waveforms (DWk) comprising a drive pulse (DPi) being sub-divided in a sequence of a particular number of drive sub-pulses (SPk), wherein consecutive ones of the drive sub-pulses (SPk) of the sequence are separated by a non-zero separation period of time (SPT).	13. A method of driving a bi-stable display (100) having pixels (Pij), the method comprises: supplying (101, 102) drive waveforms (DWk) to the pixels (Pij) to obtain during an image update period (IUk) an update of an image presented by the pixels (Pij), and controlling (103) the driver (101, 102) to supply, during the image update period (IUk) wherein a particular optical transition of a particular one of the pixels (Pij) is required, an associated one of the drive waveforms (DWk) comprising a sequence of a particular number of pulses (SPk), wherein consecutive ones of the pulses (SPk) of the sequence are separated by a separation period of time (SPT), the particular number of said pulses (SPk), and/or a duration of said pulses (SPk), and/or a duration of the separation period (SPT) of the associated one of the drive waveforms (DWk) being determined to obtain the particular optical transition at a desired energy of the drive waveform (DWk) during the image update period (IUk).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-2, 4-5, 8, and 11-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Gates et al (6,531,997) hereinafter, Gates.

5. In regards to claim 1, Gates teaches a drive circuit for a bi-stable display (100) **(abstract)** having pixels (Pij), the drive In circuit comprises:

a driver (101, 102) **(col. 31, lines 5)** for supplying drive waveforms (DWk) to the pixels (Pij) to obtain during an image update period (IUk) an update of an image presented by the pixels (Pij) **(fig. 1A-1D)**, and

6. a controller (103)**(col. 31, lines 1-5)** for controlling the driver (101, 102) to supply, during the image update period (IUk) wherein a particular optical transition of a particular one of the pixels (Pij) is required, an associated one of the drive waveforms (DWk) to the particular one of the pixels (Pij)**(col. 15, lines 6-34)**, the associated one of the drive waveforms (DWk) comprising a sequence of a particular number of pulses (SPk)**(col. 15, lines 63-67 and fig. 2d)**, wherein consecutive ones of the pulses (SPk) of the sequence are separated by a separation period of time (SPT)**(fig. 2 space between pulses)**, the particular number of said pulses (SPk), and/or a duration of said

pulses (SPk), and/or a duration of the separation period (SPT) of the associated one of the drive waveforms (DWk) being determined to obtain the particular optical transition at a desired energy of the associated one of the drive waveforms (DWk)**(col. 16, lines 58-63 V4t4).** Examiner notes the use "and/or" function, when an "or" operator is used only one of the conditions need to be satisfied to read on the claims. Accordingly, Examiner is relying on Gates to teach the limitation wherein consecutive ones of the pulses (SPk) of the sequence are separated by a separation period of time (SPT)**(fig. 2 space between pulses)**, the particular number of said pulses.

7. In regards to claim 13, Gates teaches a method of driving a bi-stable display (100) having pixels (Pij), the method comprises **(abstract)**:

supplying (101, 102) drive waveforms (DWk) to the pixels (Pij) to obtain during an image **(col. 31, lines 1-5)** update period (IUk) an update of an image presented by the pixels (Pij) **(col. 15, lines 25-60)**, and controlling (103) the driver (101, 102) to supply, during the image update period (IUk) wherein a particular optical transition of a particular one of the pixels (Pij) is required **(fig. 1a-1d)**, an associated one of the drive waveforms (DWk) comprising a sequence of a particular number of pulses (SPk) **(fig. 2d)**, wherein consecutive ones of the pulses (SPk) of the sequence are separated by a separation period of time (SPT) **(fig. 2 space between pulses)**, the particular number of said pulses (SPk)**(fig. 2 pulses)**, and/or a duration of said pulses (SPk), and/or a duration of the separation period (SPT) of the associated one of the drive waveforms (DWk) being determined to obtain the particular optical transition at a desired energy of

the drive waveform (DWk) during the image update period (IUk)**(col. 16, lines 58-63)**. Examiner notes the use "and/or" function, when an "or" operator is used only one of the conditions need to be satisfied to read on the claims. Accordingly, Examiner is relying on Gates to teach the limitation wherein consecutive ones of the pulses (SPk) of the sequence are separated by a separation period of time (SPT)**(fig. 2 space between pulses)**, the particular number of said pulses.

8. In regards to claim 2, Gates teaches a drive circuit as claimed in claim 1, wherein the controller (103) is arranged for controlling the driver (101, 102) to supply the particular number of said pulses (SPk), and/or a duration of said pulses (SPk), and/or a duration of the separation period (SPT) of the associated one of the drive waveforms (DWk) being determined to decrease an average value of the energy of the associated one of the drive waveforms (DWk) (col. 16, lines 57-63) Examiner notes the area, or average value of energy, of fig. 2d will be less than the same pulse of the same duration, without spaces.

9. In regards to claim 4, Gates teaches a drive circuit as claimed in claim 1, wherein the drive circuit further comprises an averaging circuit (104) for determining, during the image update period (IUk), or during a sequence of image update periods (IUK), for the particular one of the pixels (Pij) an average value (AV) of the energy of the associated one of the drive waveforms (DWk), and wherein the controller (103) is arranged for

receiving the average value (AV) to control the particular number of said pulses (SPk), and/or a duration of said pulses (SPk), and/or a duration of the separation period (SPT) of the associated one of the drive waveforms (DWk) in response to the average value (AV) to decrease the average value (AV) (col. 9, lines 55-67).

10. In regards to claim 5, Gates teaches a drive circuit as claimed in claim 2, wherein the controller (103) is arranged for controlling for the particular pixel (Pij) the driver (101, 102) to supply the drive waveform (DWk) comprising the particular number of pulses (SP1, . . . SP6) separated by the separation period of time (SPT) as a series of sub-pulses (SSP1) during the image update period (IU2), and to supply a single pulse (DW1) only, during another image update period (IU1), the number of sub-pulses in the series (SSP1) being determined to decrease the average value (AV) of the drive waveform (DWk) during the total period in time covering the image update period (IU2) and the other image update period (IU1) (fig. 2f (60) col. 17, lines 5-33). Examiner notes Gates teaches wherein plural signals can be added together for a more particular effect.

11. In regards to claim 8, Gates teaches a drive circuit as claimed in claim 2, wherein the controller (103) is arranged for controlling for a particular pixel (Pij) (fig. 3a (50)), the driver (101, 102) to supply, during an image update period (IU11), the particular number of pulses (SP20, . . . , SP23) separated by the separation period of time (SPT) as a series of sub-pulses (SSP3) for resetting the particular pixel (Pij) to one of its extreme

optical states (fig. 4a and fig. 4b), and to supply during another image update period (IU10) (fig. 3d-3f), the drive waveform (DW10) comprising a single reset pulse (RE1) instead of the series of sub-pulses (SSP3), and a drive pulse (DP1) succeeding the single reset pulse (RE1) (fig. 2f 60 and 63), the number of sub-pulses of the series (SSP3) being determined to decrease the average value (AV) of the energy of the drive waveform (DWk) during the total period in time covering the image update period (IU11) and the other image update period (IU10) (col. 17, lines 43-50 and fig. 4a and 4b).

12. In regards to claim 11, Gates teaches a drive circuit as claimed in claim 1, wherein the controller (103) is arranged for controlling the driver (101, 102) to supply a level during the separation period of time (SPT) to substantially keep an optical state of the particular one of the pixels (Pij) unaltered (fig. 4a and 4b "D2").

13. In regards to claim 12, Gates teaches a drive circuit as claimed in claim 1, wherein the controller (103) is arranged for controlling the driver (101, 102) to supply during the separation period (SPT) a level opposite to the level of the one of the pulses (SPk) preceding the separation period (SPT) (fig. 2f 60 and 63).

14. In regards to claim 14, Gates teaches a display apparatus comprising a bi-stable display (100) and a drive circuit as claimed in claim 1 (abstract).

15. In regards to claim 15, Gates teaches a display apparatus as claimed in claim 14, wherein the bi-stable display (100) is an electrophoretic display (1)(col. 11, lines 9-15).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claims 3, 6, 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gates in view of Zehner et al (7,312,794) hereinafter, Zehner.

19. In regards to claim 3, Gates differs from the claimed invention in that Gates does not expressly disclose wherein the drive circuit further comprises a memory (107) for

storing the drive waveforms (DWk) required for all possible optical transitions of the pixels (Pij), at least one of the drive waveforms (DWk) comprising the sequence of the particular number of pulses (SPk).

However, Zehner teaches a system and method for wherein the drive circuit further comprises a memory (107) for storing the drive waveforms (DWk) required for all possible optical transitions of the pixels (Pij), at least one of the drive waveforms (DWk) comprising the sequence of the particular number of pulses (SPk). (fig. 124 col. 17, lines 1-37 of Zehner).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Gates to include the use of wherein the drive circuit further comprises a memory (107) for storing the drive waveforms (DWk) required for all possible optical transitions of the pixels (Pij), at least one of the drive waveforms (DWk) comprising the sequence of the particular number of pulses (SPk) as taught by Zehner in order to provide the proper gray level for the desired final image (col. 17, lines 10-20 of Zehner).such that the final image has an astatically pleasing appearance.

20. In regards to claim 6, Gates differs from the claimed invention in that Gates does not disclose wherein the controller (103) is arranged for controlling for a particular pixel (Pij) the driver (101, 102) to supply the drive waveform (DWk) further comprising a shaking pulse (S1) preceding the single pulse (DW1) and/or preceding the series of sub-pulses (SSP1) .

However, Zehner teaches a system and method for wherein the controller (103) is arranged for controlling for a particular pixel (Pij) the driver (101, 102) to supply the drive waveform (DWk) further comprising a shaking pulse (S1) preceding the single pulse (DW1) and/or preceding the series of sub-pulses (SSP1) (fig. 10 (304) col. 31, lines 18-39 "flashing "of Zehner).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Gates to include the use of shaking or flashing pulses as taught by Zehner in order to ensure accurate gray states as stated in (col. 31, lines 18-30 of Zehner).

21. In regards to claim 7, Gates discloses the limitations of a drive circuit as claimed in claim 2, wherein the controller (103) is arranged for controlling for a particular pixel (Pij) the driver (101, 102) to supply during the image update period (IU21) the drive waveform (DW21) comprising the particular number of pulses (SP30, . . . , SP33) separated by the separation period of time (SPT) as a series of sub-pulses (SSP4), and to supply, during another image update period (IU20), the drive waveform (DW20) comprising a single drive pulse (DP2) instead of the particular number of pulses (SP30, . . . , SP33) the number of sub-pulses of the series (SSP4) being determined to decrease the average value (AV) of the drive waveform (DWk) during the total period in time covering the image update period (IU20) and the other image update period (fig. 2f (60) col. 17, lines 5-33).

Gates differs from the claimed invention in that Gates does not disclose and a reset pulse (RE2) preceding the drive pulse (DP2), (IU10).

However, Zehner teaches a system and method for a reset pulse (RE2) preceding the drive pulse (DP2), (IU10) (fig. 9 and 10 304 and 308).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Gates to include the use o a reset pulse (RE2) preceding the drive pulse (DP2), (IU10) (fig. 9 and 10 304 and 308) as taught by Zehner in order to ensure accurate gray states as stated in (col. 31, lines 18-30 of Zehner).

22. In regards to claim 9, Gates differs from the claimed invention in that Gates does not disclose wherein the controller (103) is arranged for controlling the driver (101, 102) to supply during both the image update period (IUk) and the another image update period (IUk) a first shaking pulse (S1) preceding said reset pulse (RE1; RE2).

However, Zehner teaches a system and method for wherein the controller (103) is arranged for controlling the driver (101, 102) to supply during both the image update period (IUk) and the another image update period (IUk) a first shaking pulse (S1) preceding said reset pulse (RE1; RE2). (fig. 10 (304) col. 31, lines 18-39 "flashing "of Zehner). Examiner is viewing the first pulse as a shaking pulse and the reset of the pulses of 304 as reset pulses.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Gates to include the use of shaking preceding a reset pulse as

taught by Zehner in order to ensure accurate gray states as stated in (col. 31, lines 18-30 of Zehner).

23. In regards to claim 10, Gates differs from the claimed invention in that Gates does not disclose wherein the controller (103) is arranged for controlling the driver (101, 102) to supply during both the image update period (IUk) and the another image update period (IUk) a second shaking pulse (S2) occurring between said reset pulse (RE1; RE2) and the drive pulse (DP1; DP2).

However, Zehner teaches a system and method for wherein the controller (103) is arranged for controlling the driver (101, 102) to supply during both the image update period (IUk) and the another image update period (IUk) a second shaking pulse (S2) occurring between said reset pulse (RE1; RE2) and the drive pulse (DP1; DP2). (fig. 10 (304) col. 31, lines 18-39 "flashing "of Zehner). Examiner is viewing the first pulse as a shaking pulse and the middle pulses as reset of the pulses of 304 as reset pulses, while the last pulse of 304 is the second shaking pulse.

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Gates to include the use of a second shaking preceding a reset pulse as taught by Zehner in order to ensure accurate gray states as stated in (col. 31, lines 18-30 of Zehner).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT D. SITTA whose telephone number is (571)270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Grant D Sitta/
Examiner, Art Unit 2629
April 3, 2009

/Richard Hjerpe/

Supervisory Patent Examiner, Art Unit 2629